CLAIMS

What is claimed is:

1. In a data communication device including multiple communication ports, a method of configuring at least one of the communication ports, the method comprising:

monitoring a communications protocol associated with a remote device on a given communication port of the data communication device without participating in the communications protocol;

based on the monitored communications, detecting an attribute of the remote device;

in response to detecting the attribute of the remote device, retrieving one of multiple configuration profiles corresponding to the attribute of the remote device; and

configuring the given communication port of the data communication device with the retrieved configuration profile to support future communications with the remote device.

2. A method as in claim 1, wherein monitoring a communications protocol associated with a remote device includes:

monitoring for at least one of multiple communications protocols potentially associated with the remote device.

3. A method as in claim 1, wherein monitoring communications with a remote device on a given communication port includes:

monitoring initial communications with the remote device based on the communications protocol after coupling the remote device to the data communication device via the given communication port.

4. A method as in claim 1 further comprising:

in the event that a configuration profile does not exist for the detected attribute of the remote device, configuring a corresponding communication port of the communication device with a default configuration profile.

5. A method as in claim 1 further comprising:

polling a network node for updated configuration profiles; and

in response to polling, storing the at least one updated configuration profile from the network node to local memory of the data communication device.

6. A method as in claim 1 further comprising:

receiving a message at the data communication device from a network node indicating availability of updated configuration profiles; and

receiving the updated configuration profiles from the network node to local memory of the data communication device.

7. A method as in claim 1, wherein detecting an attribute of the remote device includes:

determining a network address associated with the remote device;

identifying a particular type associated with the remote device; and

wherein retrieving one of multiple configuration profiles includes retrieving a configuration profile depending on the identified particular type of remote device.

8. A method as in claim 7, wherein detecting an attribute of the remote device indicating its type includes detecting an attribute based on at least one of : 802.1x user authentication, CDP (Cisco Discovery Protocol), MAC address/mask assignment, IP address assignment, DHCP (Dynamic Host Configuration Protocol) response, ACL (Access Control Lists), and hardware and software associated with the remote device.

9. A method as in claim 1, wherein detecting an attribute of the remote device includes:

detecting a change in a network address associated with the remote device.

10. A method as in claim 1, wherein retrieving one of multiple configuration profiles includes retrieving one of multiple configuration profiles that includes information indicating how to set at least one parameter of the given communication port to support future communications with the remote device

11. A method as in claim 10, wherein configuring the given communication port of the data communication device with the retrieved configuration profile includes setting the given port of the data communication device based on at least one of the following parameter types: protocol type, LACP (Link Aggregation Control Protocol, security policies, security parameters, access control lists, UDLD (Uni-Directional Link Detection), Etherchannel, Spanning Tree, VLANs (Virtual Local Area Networks), routing protocols, and QoS (Quality of Service).

12. A method as in claim 1 further comprising:

storing the multiple configuration profiles at a network node accessible to the data communications device over a network link; and

wherein retrieving a configuration profile includes obtaining a configuration profile from the network node accessible to the data communication device.

13. A method as in claim 1, wherein monitoring communications associated with a remote device includes:

applying multiple attribute discovery mechanisms to identify a corresponding configuration profile to configure the communication port associated with the remote device.

14. A data communication device comprising:

at least two communication ports; and

at least one processor device that:

monitors a communications protocol associated with a remote device on a given communication port of the data communication device without participating in the communications protocol;

detects an attribute of the remote device based on the monitored communications;

retrieves one of multiple configuration profiles corresponding to the attribute of the remote device in response to detecting the attribute of the remote device; and

configures the given communication port of the data communication device with the retrieved configuration profile to support future communications.

15. A data communication device as in claim 14, wherein the at least one processor monitors for at least one of multiple communications protocols potentially associated with the remote device.

16. A data communication device as in claim 14, wherein the at least one processor monitors initial communications with the remote device based on the communications protocol after the remote device has been coupled to the data communication device through the given communication port.

17. A data communication device as in claim 14, wherein the at least one processor configures a corresponding communication port of the communication device with a default configuration profile in the event that a specific configuration profile does not exist for the detected attribute of the remote device.

18. A data communication device as in claim 14, wherein the at least one processor additionally:

polls a network node for updated configuration profiles; and

in response to polling, obtains the at least one updated configuration profile from the network node to local memory of the data communication device.

19. A data communication device as in claim 14, wherein the at least one processor additionally:

receives a message at the data communication device from a network node indicating availability of updated configuration profiles; and

wherein the data communication device further comprises:

a memory device to store the updated configuration profiles retrieved from the network node.

20. A data communication device as in claim 14, wherein the at least one processor additionally:

determines a network address associated with the remote device;

identifies a particular type associated with the remote device; and

retrieves a configuration profile depending on the identified particular type of remote device.

21. A data communication device as in claim 20, wherein the attribute of the remote device indicating its type is detected based on at least one of : 802.1x user authentication, CDP (Cisco Discovery Protocol), MAC address/mask assignment, IP address assignment, DHCP (Dynamic Host Control Protocol) response, ACL (Access Control Lists), and hardware and software associated with the remote device.

22. A data communication device as in claim 14, wherein the at least one processor additionally:

detects a change in a network address associated with the remote device.

23. A data communication device as in claim 14, wherein the at least one processor configures the given communication port of the data communication device with the retrieved configuration profile by setting the given port of the data communication device based on at least one of the following parameter types: protocol type, LACP (Link Aggregation Control Protocol, security policies, security parameters, access control lists, UDLD (Uni- Directional Link Detection), Etherchannel, Spanning Tree, VLANs (Virtual Local Area Networks), routing protocols, and QoS (Quality of Service).

24. A data communication device as in claim 14 wherein the multiple configuration profiles are stored at a network node accessible to the data communications device over a network link.

25. A data communication device as in claim 14, wherein the at least one processor additionally:

applies multiple attribute discovery mechanisms to identify a corresponding configuration profile to configure the communication port associated with the remote device.

26. A data communication device comprising:

at least two communication ports;

means for monitoring a communications protocol associated with a remote device on a given communication port of the data communication device without participating in the communications protocol;

means for detecting an attribute of the remote device based on the monitored communications;

means for retrieving one of multiple configuration profiles corresponding to the attribute of the remote device in response to detecting the attribute of the remote device; and

means for configuring the given communication port of the data communication device with the retrieved configuration profile to support future communications.

27. A computer program product including a computer-readable medium having instructions stored thereon for processing data information, such that the instructions, when carried out by a processing device, enable the processing device to perform the steps of:

monitoring a communications protocol associated with a remote device on a given communication port of the data communication device without participating in the communications protocol;

based on the monitored communications, detecting an attribute of the remote device;

in response to detecting the attribute of the remote device, retrieving one of multiple configuration profiles corresponding to the attribute of the remote device; and

configuring the given communication port of the data communication device with the retrieved configuration profile to support future communications.